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## REMARKS

In the Office Action, the Examiner indicated the allowance of claims 1-22, and rejected claims 32-48 under 35 U.S.C. § 103(a) as being unpatentable over Grove U.S. Patent No. 3,753,182 in view of Soileau et al. U.S. Patent No. 4,601,765.

The Examiner has rejected claims 32-48 under § 103(a) as being unpatentable over Grove '182 in view of Soileau et al. '765. Soileau et al. '765 is directed toward a transformer and inductor intended for discharge lamp ballast circuits. The Soileau et al. '765 transformer and inductor is not intended or designed to be frictionally engaged with another surface, such as the surface of a brake drum. Prior art references used in obviousness determinations must either be in the field of the inventor's endeavor or reasonably pertinent to the problems that the inventor solves. *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992); MPEP § 2141.01(a). The Soileau et al. '765 reference is not analogous art and is not properly used in the determination of what one of ordinary skill in the art would have known or considered at the time of invention of the claims of the present application. On that basis, the Applicant submits that the Examiner's obviousness rejections are improper and respectfully requests that they be withdrawn.

Also, in order to establish a *prima facie* case of obviousness, three basic criteria must be met by the Examiner: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings; (2) there must be a reasonable expectation of

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success; and (3) the prior art references must teach or suggest all of the claim limitations. MPEP § 706.02 (j).

With respect to claims 32-35, claim 32 recites an electromagnet assembly for a brake including, among other things, a friction material comprising a polymeric donor material, the powder metal housing having a rim with a thickness of between about 0.127 inches and about 0.400 inches.

First, neither Grove '182 nor Soileau et al. '765 provides any suggestion or motivation to modify or combine their structures to arrive at the claimed invention. Grove '182 is directed to an electromagnetic bobbin structure for vehicle brakes. Soileau et al. '765 is directed toward a transformer and inductor intended for discharge lamp ballast circuits and is not intended or designed to be frictionally engaged with any other surface, i.e. the surface of a brake drum. The Applicant submits that a person having ordinary skill in the art of brake systems would not be aware of, nor should he/she be expected to be aware of, technology in the field of lighting. Therefore, the transformer and indicator of Soileau et al. '765 is not analogous art and there is no motivation, in either reference or otherwise, to combine the teachings of the Grove '182 and Soileau et al. '765 references.

The Examiner has not provided any motivation or suggestion in the references to combine their structures. The cited references, either alone or in combination, do not teach or suggest any reason to add the polymeric donor material, having no frictional surfaces and used for a light ballast, to the magnetic brake assembly of Grove '182. Neither reference teaches any reason to

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add a polymeric donor material to the frictional material. Notably, there are reasons not to add a polymeric donor material as Soileau et al. '765 teaches coating the particles with a polymer that flows under pressure and that includes another overcoat of silicone. In order to render a claimed invention unpatentable, the art must reasonably teach or suggest the claimed invention. In other words, the claimed invention cannot be used as a template to piece together teachings of prior art.

*In re Fritch*, 23 U.S.P.Q. 2d 1780, 1783 (Fed. Cir. 1992).

Second, even if the references were combined, there is no reasonable expectation of success. The references cannot be combined to arrive at the claimed invention. This is in great part due to the fact that the references do not teach or suggest all of the claim limitations as required for the third criteria for the test for obviousness. Namely, neither Grove '182 nor Soileau et al. '765 discloses a frictional material comprising a polymeric donor material. Because of this, one of ordinary skill in the art, at the time of the invention, would not have had a reasonable expectation of success even if the cited references could be combined to reach the claimed invention. The Examiner argues it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the thickness of the rim of the housing, and to use the recited polymeric material. The Examiner provides no basis for this argument, and a rejection on this basis is improper.

Third, the references cited in the Office Action cannot be combined to arrive at the claimed invention. The references do not teach or suggest all of the claim limitations as required by the third criteria of the test for obviousness. Neither reference discloses a frictional material

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comprising polymeric donor material, or a powder metal housing having a rim with a thickness of between of about 0.127 inches and about 0.400 inches. Therefore, Applicant respectfully submits that the invention of claim 32 cannot be rendered obvious over Grove '182 in view of Soileau et al. '765 and further, is in condition for allowance.

Moreover, dependent claims 33-35 are dependent on allowable independent claim 32 and are allowable for that reason. Moreover, Applicant respectfully submits that these claims are allowable since they define not obvious combinations of the subject matter of claim 32. Therefore, Applicant respectfully submits that the invention of claims 33-35 would not have been obvious over Grove '182 in view of Soileau et al. '765.

The rejection of claim 36 and its dependent claims (37-39) is traversed for substantially the same reasons as with regard to claim 32. Furthermore, neither Grove '182 nor Soileau et al. '765 discloses an electromagnetic having a magnetic cross section that is constant to within plus or minus 3%. Therefore, Applicant respectfully submits that base claim 36 cannot be rendered obvious over Grove '182 in view of Soileau et al. '765 and is therefore in condition for allowance. Dependent claims 37-39 are dependent on base claim 36 and are allowable for that reason. Moreover, Applicant respectfully submits that these claims are allowable since they define non-obvious combinations of the subject matter of claim 36. They are not merely "design choices" and the Examiner provides no basis for his statement that they are. It is his burden so to do. Consequently, Applicant respectfully submits that claims 36-39 are in condition for allowance.

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Applicant respectfully traverses the rejection of claim 40-43 for substantially the same reasons as with regard to claim 32. Furthermore, neither Grove '182 nor Soileau et al. '765 discloses a yield strength of the powder metal core of being between 18.5 ksi and about 50 ksi wherein the powder metal core is adapted to maximize the rigidity of the electromagnet. The Examiner argues that it would have been obvious to select a powder core strength within a "certain range." However, the Examiner has not provided a basis of why the *recited range* of the claim would have been obvious. The Examiner has not carried his burden of showing a *prima facie* case of obviousness. Therefore, Applicant respectfully submits that claim 40 cannot be rendered obvious over Grove '182 in view of Soileau et al. '765 and respectfully requests allowance of claim 40. Claims 41-43 are dependent on allowable base claim 40 and are allowable for that reason. Moreover, Applicant respectfully submits that these claims are allowable since they define non-obvious combinations of the subject matter of claim 40. Therefore, Applicant respectfully submits that claims 41-43 cannot be rendered obvious over Grove '182 in view of Soileau et al. '765 and respectfully request allowance thereof.

Regarding claims 44-48, the invention of these claims would not have been obvious in view of the cited prior art. Specifically, neither the Grove '182 reference nor the Soileau et al. '765 reference teaches or suggests the use of a polymer impregnated metal core. Rather, Soileau et al. '765 teaches that the PM particles are to be "coated." This teaches away from impregnating the metal core. Also, neither teaches a donor material having an elasticity greater than about 2 million psi. The cited references, even in combination, do not teach all of the limitations of the

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claims and the § 103 rejection should be withdrawn. Therefore, Applicant respectfully requests allowance of claims 44-48.

Although the Examiner has stated that certain aspects of the claimed invention of claims 32-48 would have been obvious to one of ordinary skill in the art at the time of invention, such as using a polymeric donor material or having a powder metal to a specific Young's modulus, the Examiner does not say why it would have been obvious. It is the Examiner's burden to show that the prior art reference or references has all of the recited elements of the claimed invention. In this case, the Examiner has not done so and therefore the § 103(a) rejection of the claims is improper. The Applicant thus respectfully requests that the § 103 rejection of claims 32-48 be withdrawn.

#### CONCLUSION

The Applicant submits that the present application is in a condition for allowance, a notice of which is respectfully solicited.

Respectfully submitted,

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